

# LIVE OAK RIVERFRONT PARK BOAT LAUNCHING FACILITY

**Phase I Funding: \$561,000**  
**\$1,118,000 Grant**

## SUMMARY

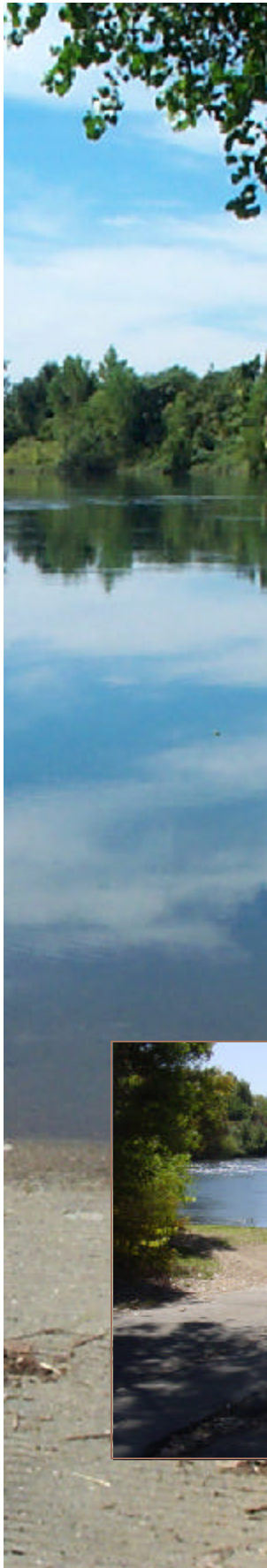
The County of Sutter has applied to the Department of Boating and Waterways for a grant of \$1,118,000 to make improvements to the Live Oak Riverfront Park Boat Launching Facility (Live Oak BLF). This report concerns phase I funding of \$561,000 for planning and engineering for this project.

The Live Oak BLF is located on the Feather River just east of the City of Live Oak. The existing facility, originally constructed in 1968 by the U.S. Army Corps of Engineers, consists of a two-lane boat launching ramp, a 52 space vehicle/trailer parking area, portable toilets and picnic tables.

The proposed project entails: (1) replacement of a single-lane boat launching ramp with a new two-lane boat launching ramp, (2) installation of a boarding float, (3) rock slope protection, and (4) a project sign.

The benefit/cost ratio must be greater than unity (1.00) before public investment in a project is justified. This project is considered economically feasible with a benefit/cost ratio of 5.87.

*DBW grants are funded exclusively through the Harbors and Watercraft Revolving Fund. These funds are derived from the gasoline taxes paid by boaters in California and the repayment of loan principal and interest. No State General Fund dollars are used*



# INTRODUCTION

## GRANT APPLICANT

The grant applicant for this project is the County of Sutter (County). The County Public Works Department is responsible for the operation of parks and recreation in the county, including the Live Oak Riverfront Park Boat Launching Facility (Live Oak BLF). The Public Works Department also provides administrative services for fish and game, landscape districts, building and grounds maintenance, the county airport, and several special districts.

## PROJECT IDENTIFICATION

The proposed project entails improvements to the boat launching facility on the Feather River. The Project Area is the Live Oak BLF. The existing facility, originally constructed in 1968 by the U.S. Army Corps of Engineers, consists of a two-lane (26' wide by 210' long) boat launching ramp, a 52 space vehicle/trailer parking area, portable toilets, and picnic tables.

The County operates and maintains the park through an agreement with the State of California (dated January 29, 1968).

Live Oak BLF is located in a flood plain, so no permanent restroom is planned to be constructed for this project. Portable toilets are provided at the site during the boating season.

## PROJECT LOCATION

The Live Oak Riverfront Park BLF is located on the Feather River just east of the City of Live Oak. The City of Live Oak (pop. 6,500) is just north of the Twin Cities area of Yuba City/Marysville (pop. 58,000), and 40 minutes south of Chico (pop. 69,000). The current population of the County of Sutter is approximately 80,000.

## ACCESS TO PROJECT

To get to the Live Oak BLF, travel north on Interstate 5, then north on State Route 99 through Yuba City to the City of Live Oak. Go east on Pennington Road and follow the signs to the park.

## AREA DESCRIPTION

The County of Sutter is situated between two rivers, the Sacramento and the Feather, and covers an area of 606.6 square miles. The Feather River provides recreational opportunities for both boating



and fishing. The Feather River is a main feature of the State Water Project (SWP) through the facilities located at Oroville. Oroville Reservoir is the SWP's largest facility and includes three power plants. With such facilities upstream, the Feather River maintains a controlled flow year round for the SWP fisheries requirements.

There are several seasonal migrations of game fish within the Feather River that attract large numbers of anglers. Annual runs of striped bass, shad, steelhead trout, and salmon are the predominant attractions. Local populations of black bass, trout, catfish, bluegill, and crappie are also present.

The nearest boat launching facilities in the area are located in Yuba City/ Marysville (the Yuba City Boat Launching Facility and the Marysville Boat Launching Facility at River Front Park), and five miles south of Yuba City/ Marysville at the Boyd Pump Boat Launching Facility.

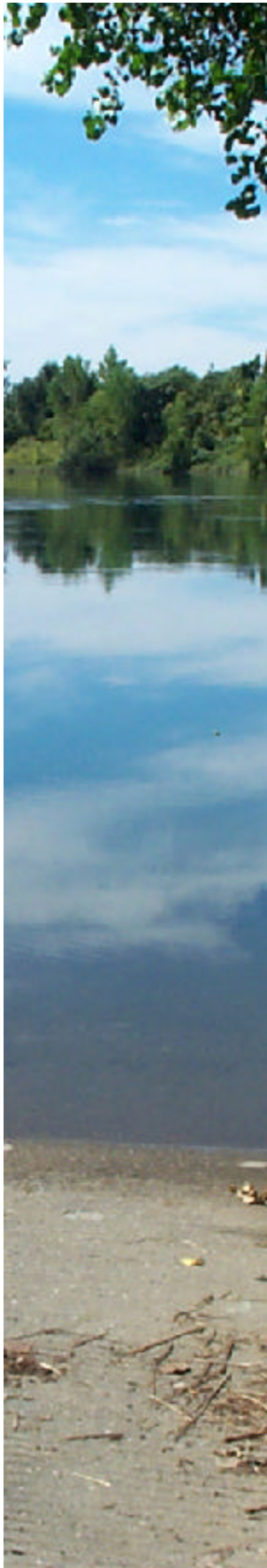
### **PREVIOUS COMMISSION ACTION**

There has been no previous Commission action concerning the Live Oak BLF.

## **ENGINEERING CONSIDERATIONS**

Before a project is submitted to the Governor for inclusion in the budget, Department of Boating and Waterways (DBW) staff reviews both the site and the application to verify that the proposed project will meet DBW standards when completed. Planning personnel visit the site and discuss project layout and components with the applicant. After an application is received, DBW engineers review the project proposal. DBW's engineering review includes an analysis of site use, review of project components, and verification of estimated costs. Only after it is determined that the proposed project meets DBW standards and the preliminary cost estimate is verified is the project included in the budget.

Once a proposed project is approved by the DBW Commission, plans and specifications will be finalized and a final cost estimate will be determined for the project. If the final cost estimate exceeds the preliminary cost estimate the grantee has a number of options. It may either find additional funds elsewhere, alter or scale down the project, apply for additional funding, or discontinue the project. Any scope change or increase in cost to DBW requires additional Commission consideration. If the grantee discontinues the project any DBW funds expended by the grantee must be returned to DBW.



## PROPOSED PROJECT

The County intends to widen the ramp by four feet, extend the ramp by 30 feet, and provide erosion control around the new extension to prevent washouts.

The proposed Live Oak BLF project considered in this report entails: (1) replacement of a single-lane boat launching ramp with a new 30' wide by 240' long concrete v-grooved two-lane boat launching ramp, (2) installation of an 8' by 20' pile-guided boarding float with gangway, (3) rock slope protection, and (4) a concrete project sign.

The County will also utilize funds from Proposition 40 and Proposition 12 to overlay and stripe the 54 space vehicle/trailer parking area. The parking area improvements are scheduled to be completed in 2005.

## COST ESTIMATE

<i><b>PROJECT ITEM</b></i>		<i><b>DBW</b></i>
<b>Site Preparation</b>	<b>\$</b>	<b>45,000</b>
<b>Excavation</b>		<b>75,000</b>
<b>Boat Ramp</b>		<b>413,000</b>
<b>Boarding Float</b>		<b>152,000</b>
<b>Slope Protection</b>		<b>54,000</b>
<b>Concrete Project Sign</b>		<b><u>6,000</u></b>
<b>SUBTOTAL</b>	<b>\$</b>	<b>745,000</b>
<b>Escalation*</b>		<b>149,000</b>
<b>Contingency*</b>		<b>74,500</b>
<b>Engineering*</b>		<b>89,500</b>
<b>Inspection*</b>		<b>37,500</b>
<b>Permits*</b>		<b><u>22,500</u></b>
<b>TOTAL</b>	<b>\$</b>	<b>1,118,000</b>

\*Project non-construction costs are as follows: Escalation is 20% of the construction subtotal; contingency is 10% of the construction subtotal; engineering is 12% of the construction subtotal; inspection is 5% of the construction subtotal, and; permits are 3% of the construction subtotal.

## CONCLUSION

There are no particularly difficult or unusual problems associated with this project and it falls within the normal range of practice for design and construction of projects of this type. Therefore, the proposed project is considered feasible from an engineering standpoint at a total estimated cost of \$1,118,000.

# ECONOMIC ANALYSIS

## INTRODUCTION

The economic justification of any proposed project rests upon a comparison of the benefits and costs

attributable to the project. A benefit/cost analysis is performed to demonstrate whether the total cost of a project to society is justified by its overall benefit to society. A project is deemed beneficial and therefore economically feasible when total benefits equal or exceed total costs.

In the benefit/cost analysis in this report, projects evaluated by DBW are considered either new projects or improvement projects. A new project is



initial facility construction, or a project at a facility that has not been improved utilizing DBW grant funds within the last 20 years. An improvement project is a project at a facility at which DBW grant funds *have* been utilized for site improvements in the last 20 years. Live Oak BLF is considered to be a new project. The value of a new project is determined by the benefits and the costs of the proposed facility with the proposed improvements in place.

## THE BENEFIT/COST PROCESS

Costs and Benefits, and user data are verified by comparison with data published in the 2002 California Boating Facilities Needs Assessment (BNA). BNA Volume V - Boating Economic Assessments and Facilities Demand Projections - summarizes the economic benefits of boating to California, the values of recreational boating in California, and the demand projections for boating and boating facilities derived from the 2001 California Boats and Boaters Survey (BBS). This project is located in the Sacramento Basin region (see Glossary/Data Sources, #11).

**TABLE 1A**

<b>ANNUAL BOAT LAUNCHES</b>
<b>AVERAGE PERSONS ABOARD</b>
<b>ANNUAL BASE YEAR USER DAYS</b>

**EXISTING    PROJECTED**

7,800  
3.35  
26,130

The first step in the benefit/cost analysis is to determine annual benefits. Annual benefits are determined by calculating the annual base year user days (Table 1A) and the annual percentage growth rate (Table 1B). These two are multiplied to give the project user days per year. The project user days per year are multiplied by a user day value plus the expected annual percent increase in the Consumer Price Index to give annual benefits (Table 2).

**TABLE 1B**

NUMBER IN MKT. AREA		ACTUAL		PROJECTED
		2005	2025	
<b>BOATS &lt; 26' IN LENGTH</b>	low	154,427	198,200	1.42%
	high	154,427	238,797	2.73%
<b>ANNUAL GROWTH RATE</b>				<b>2.10%</b>

Next, annual costs are determined by multiplying the existing or projected annual boat launches for the facility by the cost per boat launching and the expected annual percent cost escalation rate to give annual costs. If there is no charge for boat launching at the facility, a standard cost is substituted in the equation (see Glossary/Data Sources, #10). Annual costs are then multiplied by the annual growth rate (Table 3).

## Glossary/Data Sources

Much of the data below was derived from the 2002 California Boating Facilities Needs Assessment (BNA) - a comprehensive assessment of boats and boating facilities statewide.

1. Annual Base Year User Days - annual boat launches times average persons aboard a boat.

2. Annual Boat Launches - existing or projected yearly boat launches at a facility, estimated by the grantee, or from regional data from the BBS.

3. Average Persons Aboard a Boat - regional data from the BBS.

4. Annual Percentage Growth Rate - the average of the low and high boat usage (over the 20-year life expectancy of the project) derived from boat forecasts regional data for boats less than 26 foot in length.

5. Boat Forecasts Regional Data - boat ownership in California by region and boat length through 2020. Data sources include DMV Year-End Boat Registration Report; DMV Boat Registration Data Tapes; California Department of Finance, County Population Estimates for January 1; California Department of Finance, Interim County Population Projections; US MARAD, Merchant Vessels of the U.S.

6. User Day Value - the measure of the value of one day of recreation to the user. For the purposes of this analysis, it is the value of recreation provided by publicly accessible waterways and boating facilities within California. The user day value was determined by using a technique known as the travel cost method. The travel cost method assumes that an individual's willingness to pay time and travel expenses for a recreational outing can be estimated based on the number of trips that they make at different travel costs. These costs can then be used as proxy to estimate the "price" of recreation.

### Glossary/Data Sources ~ Continued ~

The BBS estimated a travel cost per day for recreational boating in California, which was then divided by the average number of persons aboard a boat on an average boating trip. This yielded an average travel cost per person per day of boating of \$17.89. This is the user day value used in this benefit/cost analysis.

7. Consumer Price Index - monthly data on changes in the prices paid by urban consumers for a representative basket of goods and services.

8. Boat launching fees - existing or projected fees for boat launching from grantee.

9. Annual Percentage Cost Escalation Rate- the annual percent increase in the 20-city average of the construction cost index.

10. Standard cost - The cost to be used in the calculation of annual costs when the boat launching facility does not charge a fee. This cost (\$5.23) is derived from a DBW Fee Survey completed in August 2001, and is increased by the Consumer Price Index annually. The current cost is \$5.71.

11. Regional Data - In the BNA, California is divided into ten regions: North Coast, San Francisco, Central Coast, South Coast, San Diego, Northern Interior, Sacramento Basin, Central Valley, Eastern Sierra, and Southern Interior.

### TABLE 2

#### PROJECT USER DAYS

	EXISTING	PROJECTED
1	-	26,679
2	-	27,239
3	-	27,811
4	-	28,395
5	-	28,991
6	-	29,600
7	-	30,222
8	-	30,856
9	-	31,504
10	-	32,166
11	-	32,841
12	-	33,531
13	-	34,235
14	-	34,954
15	-	35,688
16	-	36,438
17	-	37,203
18	-	37,984
19	-	38,782
20	-	39,596

Project benefits per year and project operating costs per year are then discounted to yield their net present value. Since the value of a dollar is considered to be greater in the present year than in some future year, a discount rate is applied in order to deflate the future dollars and to convert the benefits and costs occurring over the 20-year grant period to a present day value. In this manner, the present day value may be comparable to other values in the present.

The sum of the present benefits and the discounted future benefits is the net present value of the project (Table 4). The sum of the present costs, including capital costs, and the discounted future costs is the net present cost of the project (Table 5).

The net present value of benefits is then divided by the net present value of costs to yield the benefit/cost ratio. The benefit/cost ratio must be greater than unity (1.00) before public investment in a project is justified (Table 6).

#### USER DAY VALUE CPI

\$ 17.89	\$ 17.89
4.7%	4.7%

### ANNUAL LAUNCHES

Annual launches for this project are projected to be 7,800, with project improvements in place.

### ANNUAL BENEFITS

Annual base year user days for this project are 26,130. (Table 1A). The annual percentage growth rate is 2.10% (Table 1B). Annual benefits are shown in Table 2. The net present value of benefits is shown in Table 4.

### ANNUAL COSTS

Annual costs are shown in Table 3. The net present value of costs is shown in Table 5.

#### EXISTING PROJECTED

ANNUAL BENEFITS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	-	477,282																		
		-	510,209																	
		-	520,923																	
		-	531,863																	
		-	543,032																	
		-	554,435																	
		-	566,078																	
		-	577,966																	
		-	590,103																	
		-	602,496																	
		-	615,148																	
		-	628,066																	
		-	641,255																	
		-	654,722																	
		-	668,471																	
		-	682,509																	
		-	696,842																	
		-	711,475																	
		-	726,416																	
		-	741,671																	

**TABLE 3**                      **EXISTING**    **PROJECTED**

BOAT LAUNCHING FEE	5.00
ANNUAL LAUNCHES	7,800
ANNUAL COST	\$39,000

MAINTENANCE	
ANNUAL COST ESCALATION	3.40%

**EXISTING**    **PROJECTED****ANNUAL GROWTH RATE**

2.08%

**EXISTING**    **PROJECTED**

ANNUAL COSTS	1	\$	-	\$	39,000
	2	\$	-	\$	40,326
	3	\$	-	\$	41,697
	4	\$	-	\$	43,115
	5	\$	-	\$	44,581
	6	\$	-	\$	46,096
	7	\$	-	\$	47,664
	8	\$	-	\$	49,284
	9	\$	-	\$	50,960
	10	\$	-	\$	52,693
	11	\$	-	\$	54,484
	12	\$	-	\$	56,337
	13	\$	-	\$	58,252
	14	\$	-	\$	60,233
	15	\$	-	\$	62,281
	16	\$	-	\$	64,398
	17	\$	-	\$	66,588
	18	\$	-	\$	68,852
	19	\$	-	\$	71,193
	20	\$	-	\$	73,613

\$	-	\$	39,811
\$	-	\$	41,165
\$	-	\$	42,564
\$	-	\$	44,012
\$	-	\$	45,508
\$	-	\$	47,055
\$	-	\$	48,655
\$	-	\$	50,309
\$	-	\$	52,020
\$	-	\$	53,789
\$	-	\$	55,617
\$	-	\$	57,508
\$	-	\$	59,464
\$	-	\$	61,485
\$	-	\$	63,576
\$	-	\$	65,738
\$	-	\$	67,973
\$	-	\$	70,284
\$	-	\$	72,673
\$	-	\$	75,144

## BENEFIT/COST RATIO

The benefit/cost ratio for this project is 5.87 (Table 6). This means that estimated benefits exceed estimated costs. The construction of this project, therefore, is economically justified.

## FINANCIAL CONSIDERATIONS

Projects are publicly funded from boaters tax dollars. After the project is funded, the grantee must maintain the facility for 20 years at no additional cost to DBW. The completed project will be open to all on an equal and reasonable basis. There is a \$5.00 fee to launch a boat at the Live Oak BLF.

TABLE 4

BENEFITS				NET PRESENT VALUE	
Year	Existing Benefits	Projected Benefits	Project Benefits	Discount Rate	Benefits
0	\$0	\$477,282	\$477,282	1.00	\$477,280
1	\$0	\$510,209	\$510,209	1.05	\$488,240
2	\$0	\$520,923	\$520,923	1.09	\$477,020
3	\$0	\$531,863	\$531,863	1.14	\$466,070
4	\$0	\$543,032	\$543,032	1.19	\$455,370
5	\$0	\$554,435	\$554,435	1.25	\$444,910
6	\$0	\$566,078	\$566,078	1.30	\$434,690
7	\$0	\$577,966	\$577,966	1.36	\$424,710
8	\$0	\$590,103	\$590,103	1.42	\$414,950
9	\$0	\$602,496	\$602,496	1.49	\$405,420
10	\$0	\$615,148	\$615,148	1.55	\$396,110
11	\$0	\$628,066	\$628,066	1.62	\$387,010
12	\$0	\$641,255	\$641,255	1.70	\$378,130
13	\$0	\$654,722	\$654,722	1.77	\$369,440
14	\$0	\$668,471	\$668,471	1.85	\$360,960
15	\$0	\$682,509	\$682,509	1.94	\$352,670
16	\$0	\$696,842	\$696,842	2.02	\$344,570
17	\$0	\$711,475	\$711,475	2.11	\$336,650
18	\$0	\$726,416	\$726,416	2.21	\$328,920
19	\$0	\$741,671	\$741,671	2.31	\$321,370

Total Net Present Value of Benefits:

**\$8,064,490**

The discount rate being used is 4.50%. This is equivalent to the interest rate being charged by the Department of Boating and Waterways on its public loans. Present value is determined by dividing future benefits by  $(1+r)^n$ , where  $r$  is the discount rate and  $n$  is the number of years into the future.

TABLE 6

NET PRESENT VALUE OF BENEFITS	\$8,064,490
NET PRESENT VALUE OF COSTS	\$1,374,410
BENEFIT/COST RATIO	5.87



**TABLE 5**

COSTS				NET PRESENT VALUE	
Year	Capital Costs	Annual Existing Costs	Annual Projected Costs	Discount Factor	Cost
0	\$653,000	\$0	\$39,811	1.000	692,810
1		\$0	\$41,165	1.045	39,390
2		\$0	\$42,564	1.092	38,980
3		\$0	\$44,012	1.141	38,570
4		\$0	\$45,508	1.193	38,160
5		\$0	\$47,055	1.246	37,760
6		\$0	\$48,655	1.302	37,360
7		\$0	\$50,309	1.361	36,970
8		\$0	\$52,020	1.422	36,580
9		\$0	\$53,789	1.486	36,190
10		\$0	\$55,617	1.553	35,810
11		\$0	\$57,508	1.623	35,440
12		\$0	\$59,464	1.696	35,060
13		\$0	\$61,485	1.772	34,690
14		\$0	\$63,576	1.852	34,330
15		\$0	\$65,738	1.935	33,970
16		\$0	\$67,973	2.022	33,610
17		\$0	\$70,284	2.113	33,260
18		\$0	\$72,673	2.208	32,910
19		\$0	\$75,144	2.308	32,560
Total Present Value of Costs:					\$1,374,410

The discount rate being used is 4.50%. This is equivalent to the interest rate being charged by the Department of Boating and Waterways on its public loans. Present value is determined by dividing future benefits by  $(1+r)^n$ , where  $r$  is the discount rate and  $n$  is the number of years into the future.

## CONCLUSION

This project is being recommended because this boat launching facility is approximately 37 years old and in need of refurbishment.

## RECOMMENDATION

In view of the foregoing demonstration of the project's engineering and financial feasibility, staff recommends that the Boating and Waterways Commission consent to first phase grant funding (totaling \$561,000) of the proposed \$1,118,000 grant to the County of Sutter for improvements to the Live Oak Riverfront Park Boat Launching Facility.

# Live Oak Riverfront Park Boat Launching Facility

